



## Assessment of Fluoride, Arsenic and Other Heavy Metals in the Ground Water of Tea Gardens Belt of Sonitpur District, Assam, India

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**Abstract:** The Sonitpur district is one of the most important tea growing district of Assam. There are big tea estates (under multinational companies) as well as a large number of small tea gardens growing which is like a green revolution. In these gardens heavy amount of artificial agrochemicals are used which contaminates soil as well as drinking water sources. Ground water is an essential and vital component of our life support system. The groundwater resources are being utilized for drinking, irrigation and industrial purposes. There is growing concern on deterioration of groundwater quality due to geogenic and anthropogenic activities. Groundwater, being a fragile must be carefully managed to maintain its purity within standard limits. In tea gardens belt the agro-chemicals affect the quality of groundwater so this investigation has been carried out to assessment the quality of water in this area. Now the Fluoride and Arsenic are major problems in ground water in India and Bangladesh, the heavy metals also effect the chronic health hazards of the people in this area so it is very important to investigation of ground drinking water sources. The ground water of this area is of high iron, manganese, fluoride and arsenic concentration is observed. Finally, stress zones in the study area were delineated using Arc GIS spatial analysis.

**Keywords:** Groundwater quality, Heavy metals, Small tea gardens, Sonitpur, India.

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